

CLAIMS

1-39. (cancelled)

40. (original) A scheduler for selecting data packets from a buffer memory to be transmitted in a next time period using multiple directional transmission beams controllable in direction, said scheduler comprising:

- a backlog tracker determining a waiting time for each data packet,
said waiting time indicative of how long each data packet has waited in the buffer
memory for transmission;
- a first selector for selecting the data packet that has been waiting the longest as
indicated by the backlog tracker; and
- a second selector selecting further data packets for simultaneous transmission in
descending order of waiting time, said second selector skipping data packets
requiring a transmit direction incompatible with the direction of transmission of a
data packet previously selected for transmission at a same time.

41. (original) The scheduler of claim 40, wherein a transmit direction is deemed incompatible by the second selector if it can only be created using a directional transmission beam that will be fully occupied in transmitting an already selected data packet.

42. (original) The scheduler of claim 40, wherein a transmit direction is deemed incompatible by the second selector if it lies too close in direction to the direction of transmission of a data packet already selected for transmission at the same time.

43. (original) The scheduler of claim 42, wherein a direction too close in direction to another direction is one in which an angular separation of said directions is less than a minimum value sufficient to avoid mutual interference.

44. (original) The scheduler of claim 43, wherein the minimum angular separation sufficient to avoid mutual interference is a first separation when the polarizations of the transmission used in each direction are the same, and a second separation when the polarizations of transmission used in each direction are different.

45. (currently amended) A scheduling method for selecting data packets from a buffer memory for ~~directive transmission using a number of directive beams, said method including the steps of~~ by a phased array antenna comprising at least one directive beam, in a time-division reuse pattern, comprising:

determining a subset of directions in which said directive beam[[s]] can be transmitted in a next transmission;

mapping a destination identifier code stored with each said data packet[[s]] to a corresponding beam direction and selecting only data packets whose destinations map to a direction within said subset of directions;

ordering said selected data packets according to how long they have been stored in said buffer memory, with said selected data packets which have been stored the longest ordered first; and

transmitting the selected data packet[[s]] that ~~have~~ has been stored the longest first by directing the beam to the direction associated with that data packet, in response to the ordering.

46. (original) The scheduling method of claim 45 further including the step of deleting the selected data packets from the buffer memory which have been transmitted.

47. (original) The scheduling method of claim 45 further including the step of setting an indication flag in the buffer memory in association with the selected data packets already transmitted

48. (original) The scheduling method of claim 45, further comprising the step of releasing memory locations in the buffer memory where the selected data packets that have been transmitted were stored so as to provide storage capacity for new data packets.

49-53. (cancelled)